

56 to modulate the amount of economizer flow to an intermediate stage of compression in compressor 12. To lower the capacity of system 10, bypass line solenoid valve 52 is employed. In this arrangement, valve 56 is closed, and gas at intermediate pressure is bypassed from compressor 12 via port 12-1, line 18-1 and line 50 into suction line 24. The amount of bypassed gas and, as such, the system capacity is varied by rapidly cycling valve 52. Thus port 12-1 is used as both an economizer port and a bypass or unloading port.

From the foregoing, it should be clear that the rapid cycling of valves 52, 54 and 56, individually, allows for various forms of capacity control with the amount of time a particular valve is on relative to the time that it is off determining the degree of modulation of capacity. The frequency of modulation for typical systems can range from 0.1 to 100 seconds.

Although preferred embodiments of the present invention have been illustrated and described, other changes will occur to those skilled in the art. It is therefore intended that the scope of the present invention is to be limited only by the scope of the appended claims.

What is claimed is:

1. In a system serially including a compressor, a discharge line, a condenser, an expansion device, an evaporator and a suction line, means for achieving capacity control comprising:

- a solenoid valve in said suction line;
- means for rapidly pulsing said solenoid valve whereby the rate of flow in said suction line to said compressor is modulated;
- a fluid path extending from a point intermediate said condenser and said expansion device to said compressor at a location corresponding to an intermediate point of compression in said compressor;

a bypass line connected to said fluid path and said suction line;

a solenoid valve in said bypass line;

means for rapidly pulsing said solenoid valve in said bypass line whereby the rate of flow of bypass to said suction line is modulated.

2. The capacity control of claim 1 further including:

an economizer circuit connected to said fluid path; a solenoid valve in said economizer circuit; and means for rapidly pulsing said solenoid valve in said economizer circuit whereby the rate of economizer flow to said compressor is modulated.

3. In a system serially including a compressor, a discharge line, a condenser, an expansion device, an evaporator and a suction line, means for achieving capacity control comprising:

a solenoid valve in said suction line;

means for rapidly pulsing said solenoid valve whereby the rate of flow in said suction line to said compressor is modulated;

a fluid path extending from a point intermediate said condenser and said expansion device to said compressor at a location corresponding to an intermediate point of compression in said compressor;

an economizer circuit connected to said fluid path;

a solenoid valve in said economizer circuit; and

means for rapidly pulsing said solenoid valve in said economizer circuit whereby the rate of economizer flow to said compressor is modulated.

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